Online Appendix

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Section OA1 – Email Versions

<u>1st Wave: Same-Sex</u>

Bakeries:

Title: Wedding Cake Inquiry

Hi,

My name is John and my partner Adam and I are engaged to be married on January 2019. We are specifically looking for a traditional tiered cake with a personalized topper, and from what we saw on your website, we think you may just be the perfect one to help us realize that dream.

Getting down to business, what is the price range we should expect, and are there any additional services you supply, that may be of interest to us?

In addition, what kind of shelf product alternatives do you make, how much do you think that will lower the overall expenses?

Thank you for your time, I look forward to hearing from you.

Best Regards,

John ____

Photographers:

Title: Wedding Photography Inquiry

Hi,

My name is Robert and my partner Adam and I are engaged to be married in April, 2019. We're looking for a photographer, and we really loved your work, so we were wondering if you are generally available during that time to help us fulfill our wish of a dream wedding.

Would it be possible, before we proceed, to see a sample wedding album you made? We would also like to know the price range of a "standard package" for a weekend wedding and what said package would cover?

Furthermore, are there any additional services you provide, that may be of interest to us?

Thank you for your time, I am really looking forward to hearing from you.

Best Regards,

Robert ____

Florists:

Title: Wedding florist inquiry

Hi,

My name is John and my partner Adam and I are engaged to be married on January 2019. We're looking for traditional arrangements for the wedding ceremony itself, the tables at the rehearsal and event dinner and an overall design of the venue. From what we saw on your website, we think you may just be the one to help us realize the dream of a perfect wedding. Getting down to business, what is the price range we should expect, and are there any additional services you supply, that may be of interest to us?

In addition, are there any non-custom arrangements that you make, and how much do you think such arrangements might lower the overall expenses?

Thank you for your time, I look forward to hearing from you.

Best Regards,

John Downy

<u>2nd Wave: Opposite Sex</u>

Bakeries:

Title: Cake Services

Hello,

My fiancée Ashley and I were searching for special wedding cakes and came across your website and we found it very impressive. We are looking for someone who can make us a 2 or 3 leveled cake with a custom made topper. Is that a wish you believe you could help us fulfill? Can you provide a rough estimate of how much the requested type of cake should cost?

Do you also sell stock cakes, which we can simply pick in store? Do you provide additional services for weddings and events? Our wedding will take place in 8 months (January 2019). We know that January 2019 is quite a ways away, but because it's a pretty busy time, we would like to begin the process sooner rather than later.

I look forward to your response.

Best,

Dylan

Photographers:

Title: Photography Service

Hello,

My fiancée Ashley and I were searching for wedding photographers and came across your website and we found it very impressive.

We were wondering if it would be possible to see a full wedding album or two?

We would like to check your availability, during April, 2019 and the pricing of your provided services. We know that April 2019 is quite a ways away, but because it's a pretty busy time, we would like to begin the process sooner rather than later.

What does your standard weekend package include and how much do you charge for it?

Are there any other services you provide?

I look forward to your response and wish you could help us make it a wonderful wedding.

Best,

Scott

Florists:

Title: Flower arrangement service

Hello,

My fiancée Ashley and I were searching for wedding flower arrangements and came across your website and we found it very impressive. We are engaged to be wed on January, 2019, and we were wondering if you would be available to help us?

We know that January 2019 is quite a ways away, but because it's a pretty busy time, we would like to begin the process sooner rather than later and hope you could help us make it a wonderful wedding.

In a nutshell, we're looking for flower arrangements for the entire duration of the event (general venue decorations, the wedding ceremony, the rehearsal dinner, and the party) that are not too flashy.

Can you provide a rough estimate of how much the requested service should cost?

Do you also sell stock decorations/arrangements, which we can simply pick in store? Do you provide additional services for weddings and events?

I look forward to your response.

Best,

Dylan

3rd Wave: Same Sex

Bakeries:

Title: February wedding - cake

Hi $%name%,
Paul and I are getting married in February next year and it seems like it's time to find a bakery for our wedding cake. We know it might be a little early but we wanted to check if you're available on February 22nd, 2019? Also, how much does a cake usually cost for about 120-140 guests? We know that different cakes have different costs, so can you please send us a few different options and we will go from there.
Most importantly, is it possible to come in for tastings? Unfortunately, this week doesn't work for us, but we are planning on running a few wedding errands in the next couple of weeks and wanted to coordinate a good day for this.
Thank you very much
Bob

Best Regards,

Robert Wood
[Phone number]

Photographers:

Title: Wedding photography

Hi $%name%,
Harry and I are getting married in May and are finally starting to plan. I hope it's not too late to ask if you are available to photograph on May 17-18, 2019?

If yes, could you tell us please what are your prices? Obviously, we realize there are different prices for different types of shoots, length of time etc. If you could send us a few different options with prices that would be great.

Ideally, if time and price work, we'd like to meet. This week we are really busy, but afterwards, we are planning on taking a day off work to run wedding errands and we would like to stop in to meet you and take a look at your work.

Thanks,
John

Best Regards,

John Downy
[Phone number]

Florists:

Title: February wedding - florist

Hi $%name%,

Paul and I are getting married in February and have decided it's time to start planning. Are you available on February 22nd, 2019? It sank in on us that arranging for flowers is a big deal, and we are still not sure what exactly we need. The essentials seem to be bouquets, boutonnieres, and ceremony flowers. Also, how much do you charge for flower arrangements per table? (in case it matters, we plan to marry at my parents' house and we expect about 120-140 guests).

We would love to see a few different pricing options and we can go from there. We would also love to see your arrangements in person, should we stop by the store or an event you are doing? If so, when works? We are planning on taking a day off of work in the next couple of weeks to run a few wedding errands and want to coordinate a good day for this.

Thank you very much

Bob

Best Regards,

Robert Morris
[Phone number]

3rd Wave: Opposite Sex

Bakeries:

Title: Wedding cake search

Hey $%name%,

My name is Scott and me and my fiancé Becca are engaged to be married.

We began our search for a wedding cake—for starters, are you available on March 1st, 2019? If yes, several brief questions:

I've been told the price is per slice. We're expecting 100 guests. How much do you charge for that? What's your menu of options for cakes?

Second, Becca has some general ideas in mind and we were thinking it would make most sense to coordinate a time to stop by. Do you have an appointment system? When would be good?

Thanks,

Scott

Scott Wilson
scottwils1990@gmail.com
[Phone number]

Photographers:

Title: Scheduling a meeting regarding a wedding in June

Hey $%name%,

I'm writing to check if you might be available to meet this Friday or the next Friday regarding a wedding consultation. My fiancée and I are getting married (whoo-hoo!) and looking for a photographer who might be free on the first weekend of June 2019.

Jessica, my fiancée, is obviously the one who is going to be the mastermind here. She has several ideas that she'd like to discuss about the style of photography. We also wanted to know what your price range is and whether you also do video.

Looking forward to hear more details from you, and what date and time might work for us to meet.

Thanks,

Dylan

Dylan Mitchell

dylanmitchell923@gmail.com
[Phone number]

Florists:

Title: Wedding florist search

Hey $%name%,

My fiancé Becca and myself are engaged to be married on March 1st, 2019. We would like to keep it simple, what flowers do you need for a wedding? And are you available on our date?

Here is what we came up with so far, would appreciate some price information for each item:

- bouquets for the bride and her maids

- Decorations, arrangements, whatever one need for the altar

- Reception flowers

Now, Becca has some general ideas in mind, would it make sense to coordinate a meeting at this stage?

Thanks,

Scott

4th Wave: Same-Sex

Bakeries:

Title: February wedding - cake

Hi $%name%,
Paul and I are getting married in February next year and it seems like it's time to find a bakery for our wedding cake. We know it might be a little early but we wanted to check if you're available on February 22nd, 2019? Also, how much does a cake usually cost for about 120-140 guests? We know that different cakes have different costs, so can you please send us a few different options and we will go from there.
Most importantly, is it possible to come in for tastings? Unfortunately, this week doesn't work for us, but we are planning on running a few wedding errands in the next couple of weeks and wanted to coordinate a good day for this.
Thank you very much
Bob

Best Regards,

Robert Wood

[Phone number]

Photographers:

Title: Wedding photography

Hi $%name%,
Harry and I are getting married in May and are excited to start planning! I hope it's not too late to ask if you are available to photograph on May 17-18, 2019?

If yes, could you tell us please what you offer? Obviously, we realize there are different prices for different types of shoots, length of time etc. If you could send us a few different options that would be great.

Ideally, if time and price work, we'd like to meet. We are planning on taking a day off work to run wedding errands next week or the one after. Would either Thursday the 28th or Friday the 29th work for you? And same for 7/5-6.

Thanks,
John

Best Regards,

John Downy
[Phone number]

Florists:

Title: February wedding - florist

Hi $%name%,

Paul and I are getting married in February and have decided it's time to start planning. Are you available on February 22nd, 2019? It sank in on us that arranging for flowers is a big deal, and we are still not sure what exactly we need. The essentials seem to be bouquets, boutonnieres, and ceremony flowers. Also, how much do you charge for flower arrangements per table? (in case it matters, we plan to marry at my parents' house and we expect about 120-140 guests).

We would love to see a few different pricing options and we can go from there. We would also love to see your arrangements in person, should we stop by the store or an event you are doing? If so, when works? We are planning on taking a day off of work in the next couple of weeks to run a few wedding errands and want to coordinate a good day for this.

Thank you very much

Bob

Best Regards,
Robert Morris
[Phone number]

<u>4th Wave: Opposite-Sex</u>

Bakeries:

Title: Wedding cake search

Hey $%name%,

My name is Scott and me and my fiancé Becca are engaged to be married.

We began our search for a wedding cake—for starters, are you available on March 1st, 2019? If yes, several brief questions:

I’ve been told the price is per slice. We’re expecting 100 guests. How much do you charge for that? What’s your menu of options for cakes?

Second, Becca has some general ideas in mind and we were thinking it would make most sense to coordinate a time to stop by. Do you have an appointment system? When would be good?

Thanks,

Scott

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scottwils1990@gmail.com
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Hey $%name%,

I'm writing to check if you might be available to meet regarding a wedding consultation. My fiancée and I are getting married (whoo-hoo!) and looking for a photographer who might be free on the first weekend of June 2019 (June 1st).

Jessica, my fiancée, is obviously the one who is going to be the mastermind here. She has several ideas that she'd like to discuss about the style of photography. We also wanted to know your price range and whether you also do video.

Looking forward to hear more details from you, and what date and time might work for us to meet.

Thanks,

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Dylan Mitchell
dylanmitchell923@gmail.com
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Florists:

Title: Wedding florist search

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Here is what we came up with so far, would appreciate some price information for each item:

- bouquets for the bride and her maids

- Decorations, arrangements, whatever one need for the altar

- Reception flowers

Now, Becca has some general ideas in mind, would it make sense to coordinate a meeting at this stage?

Thanks,

Scott

[Phone number]

Section OA2 – Participant Exclusions

Reason for exclusion	Experiment	Control
Did not receive one email or more (we received an unsuccessful delivery message from the server). Happened due to either service failure or blocking or a wrong address (inexistent vendor).	**54**	**5**
Explicit suspicion	**8**	**1**

Removed due to an administrative error of the research staff that could have invoked suspicion (e.g., the sender referring to himself using a wrong name)	**4**	
Removed due to spillover (when vendor A referred to vendor B and forwarded him/her our original email) that could have invoked suspicion or contaminate the results.	**2**	
Total	**68**	**6**

Section OA3 – the Phone Survey

After sending the 3rd wave of emails (on June 13th), a random sample of emailed vendors were chosen to be surveyed on the phone. The calls were conducted between June 18th-21st 2018 (that is, before and shortly after the 4th wave emails were sent on June 20th) by two native English speakers RAs who identified as the senders of the 3rd wave email.

The purpose of the phone survey was twofold. The primary purpose was to gather data from previously non-responsive vendors. Non-responsive vendors were defined either as vendors who did not reply to the second email—the cause of the 2nd wave attrition—or vendors who did not reply to either email—potentially non-email-friendly vendors. Getting more insight on both types of non-response could be important. First, 2nd wave non-responders could have dropped from the experiment for a particular reason, such as suspicion, email fatigue, or some other reason, which a phone conversation could reveal. Second, complete non-responders might be aversive of email communication, a concern worthy of examination.

Following the recommended practice of randomly sampling non-respondents to supplement data collection,[1] we randomly sampled ~25-30% of non-responders; ~10% of past responders (vendors who responded to the second email, to compare them with those who did not, see Table 2; and vendors who responded to at least one of the emails, to compare them to complete non-responders, see Table 1); and 15% of control group vendors. Tables 1 and 2 describe the breakdown of the phone survey sample along each of these comparisons. Randomization was stratified based on the couple's identity (equal numbers of straight and gay callers), legal regime, and type of business.

The subsidiary purpose of the phone survey was to reduce attrition between the 3rd and 4th waves by putting a voice to the email and thickening the email correspondence, hopefully encouraging vendors to engage in future email-initiated communication. Since calling all 1,155 vendors was not feasible logistically, we relied on the random sampling detailed above.[2] In furtherance of the goal of preventing attrition, we also returned the calls of all 28 vendors who called the couple themselves (the 3rd email's signature included a phone number, and

[1] Alan S. Gerber and Donald P. Green, FIELD EXPERIMENTS: DESIGN, ANALYSIS, AND INTERPRETATION 236-238 (2012).
[2] *Id* (recommending random sampling as a more efficient method of supplement data collection).

some vendors called this number).[3] We distinguish between these four groups (previous non-responders; previous responders; control; returned calls) in analyzing the results of the phone survey. In summary, the phone survey sample was constructed as follows:[4]

Table OA3.1 - Phone Survey Sample Breakdown by complete vs. partial non-response

	Non-Responsive to neither 1st nor 2nd emails		Responsive to at least 1 of the 2 emails		Control – did not receive 1st and 2nd emails		Total	
# of vendors in group	205		699		251		1,155	
# of vendors in the survey <u>Randomized</u> | <u>call backs</u>	64 (31%)	3	76 (11%)	17	37 (15%)	8	177 (15%)	28

Table OA3.2 - Phone Survey Sample Breakdown by 2nd wave non-response vs. response

	Non-Responsive to 2nd email		Responsive to 2nd email		Control – did not receive 1st and 2nd emails		Total	
# of vendors in group	372		532		251		1,155	
# of vendors in the survey <u>randomized</u> | <u>call backs</u>	96 (26%)	7	44 (8%)	13	37 (15%)	8	177 (15%)	28

<u>Method</u>

An online account was opened using the CallHippo app.[5] Each character was assigned a US phone number (the same number included in its respective email signature) and a matching voicemail was recorded (e.g., “Hi, you've reached Scott, please leave a message”). Each character's outgoing call was performed from its assigned number.

Two native English speakers conducted the phone calls. Scripts for the conversation were prepared in advance, based on several moot calls with wedding vendors in non-participating states (e.g., New York) and were practiced with the speakers in advance. The scripts outlined the desired progress of the conversation, including different branches based on anticipated variance in vendors’ reactions. The scripts also included all relevant information on the

[3] Three additional vendors who were part of the sample called the couple on their own initiative before being called; these are included in the counts of the random sample. In addition, the research team texted with 5 vendors who texted the number after conversation ended.

[4] 19 vendors who were originally part of the phone survey were ultimately excluded from the sample, as described in the appendix (15 due to failures in email delivery and 4 due to suspicion). Therefore, they are not included in the table and not analyzed as part of the phone survey data, although we do discuss the suspicious vendors below. Excluding these vendors did not change any of the results.

[5] https://callhippo.com/

speaker and his partner: the character's full name, the partner's name, the names of the parents, their hometown, and so on.

The speakers' main goal in each conversation was to determine the extent to which the vendor seemed keen to do business with the couple (on a scale of 1 to 10). Secondly, the speaker sought to understand whether the vendor was willing to schedule a face-to-face meeting and, if possible, get a price estimate of the service.

Results

Out of the 177 vendors randomly selected to participate in the phone sample, 25 (14%) have not indicated a phone number on their website or the number that was indicated was wrong. Returning the calls of 28 more vendors resulted in 180 called vendors. Each vendor was called at least twice, if not reached in the first attempt. Where possible, voice messages were left for non-answering vendors, resulting in 16 such messages.[6]

Seventy-three vendors answered our calls. Ultimately, 50% of the vendors who were called were reached either via call (41%) or voice message (9%). These rates were lower for vendors who were randomized to receive a call (48% reached of the 152 with valid numbers) than vendors who called the couple on their own initiative (57% reached of the 28 call-backs). The higher success rate in the latter group is expected given the self-selection into phone communication, yet the small size of this group prevents making strong inferences.

Phone responsiveness (who answered the call, regardless of the content of the answer) is reported by the two email non-response categorizations. First, businesses who did not reply to the 2nd wave email were also less likely to answer the phone (36%) than businesses who responded to that email (52%), suggesting that the 2nd wave attrition resulted from some businesses being generally less communicative than others—across modes of communication—rather than email fatigue or suspicion.[7] Second, response rates were identical for complete non-responders (vendors who responded to neither wave 1 nor wave 2 emails) and for vendors who responded to at least one of the emails (~40% each) and for vendors in the control group (49%[8]), suggesting that differences between these groups were not due to mode of communication. Specifically, complete non-response to emails does not appear to be driven by 'phone favoritism' of some sort, as email non-responders did not differ from email responders in their phone responsiveness. It is possible that some of the complete non-responders suffered from unobserved email failures. Four of them said during the call that they did not receive the 3rd wave email, and one of these vendors replied after the call that he found the email in the Spam folder. Two complete non-responders said that they saw

[6] It is possible that some of the calls failed because of some unknown number of vendors unintentionally provided wrong numbers (we can only determine whether vendors provided wrong numbers if an automated message is heard or if someone else answers the call and states that the number is wrong). However, it seems unlikely that such error would be pervasive, as vendors have an incentive to be reached by discerning customers.

[7] All incoming calls were from U.S. phone numbers. While some people might be more suspicious of unfamiliar numbers, it is unlikely that wedding vendors screen calls based on number unfamiliarity, as all customers are unfamiliar before they become customers.

[8] While the result for the control group seems higher, it is actually based on a small number of answered calls (19/39). For example, if 3 vendors in this group would not have answered the phone the response rate of the control group would have dropped to 41%.

the email but did not respond, thinking it was a scam (these vendors were excluded from the study as reported in the exclusion appendix). Other vendors did not explain 3rd wave non-response, or provided various reasons for not responding, e.g., having intended to respond or being unable to provide the service.

The initial response rate was identical for gay and straight callers (41% each)—as expected given that a phone number does not indicate the sexual orientation of the customer (unlike the email, which content made sexual orientation immediately transparent). The response rate of bakers (50%) and florists (47%) were virtually identical, whereas photographers were slightly less likely to answer the phone (34%), possibly related to photographers' lower likelihood of answering emails.

With the caveat of the small size of the actual resulting conversations (as noted, only 73 of the vendors picked up the phone), a few general observations can be noted. The average motivation to serve among vendors who answered the phone was 7.76 (on a 1-10 scale) and 56% of the vendors who answered the call were willing to meet the couple. The motivation to serve the opposite-sex couple was slightly higher (Mean=8.00, SD=3.123) than the motivation to serve the same-sex couple (Mean=7.55, SD=3.046) but the result was non-significant due to the small sample size (p=.4).[9] Meeting responsiveness (which is presumably conditioned on high motivation to serve) was roughly identical for both identities. Only 38% of conversations included price quotes, rendering any analysis of these quotes futile. Reasons for service refusal varied. One vendor responded to the gay caller that the business "only does traditional weddings". Other vendors mentioned unavailable dates and other reasons. Five vendors said that they closed their business (e.g., due to medical condition or relocation).

Finally, with respect to the subsidiary goal of the phone survey, comparing the email response rate of randomly called vendors in the 3rd and 4th waves, we found that called vendors were much more likely to respond to the 4th wave email. Including (excluding) control vendors, their response rate rose from 13% (11%) to 38% (37%), whereas the rest of the sample experienced a 5% attrition between the two waves. The increased retention had no impact on the main experiment results due to the double randomization pursued: each emailed vendor was randomly contacted by a same-sex or an opposite-sex couple in the 3rd wave (and vice versa in the 4th wave) and called vendors were randomly sampled out of the two identity groups, such that the positive retention effect equally spread across groups.

[9] Among the 55 vendors who answered the phone but did not reply to the 3rd wave email, 88% responded positively to the straight speaker, compared with 83% to the gay speaker.

Section OA4 – Additional Analyses of the Results

1. The impact of *Masterpiece* on Businesses that Previously Agreed to Serve Same-Sex Couples – Regression Analyses and Robustness Checks

Table OA4.1 – The Impact of *Masterpiece* on Businesses that Previously Provided Service to Same-Sex Couples (Linear Regressions)

	Agreement to Provide Service (Binary)				
	(1)	(2)	(3)	(4)	(5)
Same-Sex	-0.092***	-0.092***	-0.092***	-0.084***	-0.092***
	(0.021)	(0.021)	(0.021)	(0.024)	(0.021)
AD		-0.082*	-0.100**	-0.237***	-0.108**
		(0.045)	(0.045)	(0.059)	(0.045)
RFRA		-0.051	-0.049	0.051	-0.049
		(0.041)	(0.041)	(0.047)	(0.041)
AD*RFRA		0.169***	0.176***	0.310***	0.175***
		(0.062)	(0.062)	(0.074)	(0.062)
Wave 4			-0.029	-0.020	-0.029
			(0.021)	(0.024)	(0.021)
Photographer			-0.085***	-0.087**	-0.089***
			(0.032)	(0.037)	(0.032)
Republican Vote Rate					-0.150
					(0.144)
Constant	0.755***	0.776***	0.846***	0.737***	0.924***
	(0.019)	(0.030)	(0.038)	(0.046)	(0.085)
Business Fixed Effects	Yes	Yes	Yes	Yes	Yes
Only cities (80k+)	No	No	No	Yes	No
Businesses	575	575	575	485	575
Observations	1,150	1,150	1,150	932	1,150

Notes: The table reports the results from a series of linear regression analyses predicting the agreement of previously gay-friendly businesses to serve couples post-*Masterpiece*. All analyses include fixed effects at the level of the business. The dependent variable is binary response: 1 for positive response, 0 for negative or no response. Column 1 reports a simple regression that includes only the coefficient of sexual orientation (Same-Sex = 1 for same-sex couples and 0 otherwise). Column 2 adds the coefficients of legal regime (AD = 1 if an AD law exists in the jurisdiction and 0 otherwise; RFRA = 1 if a RFRA exists in the jurisdiction and 0 otherwise; AD*RFRA = 1 if the two laws coexist in the jurisdiction and 0 otherwise). Column 3 adds the coefficients of the experimental wave (wave 4 = 1 if the inquiry was sent in the second wave after the decision and the last wave in total, and 0 otherwise) and the type of business (Photographer = 1 is the business provided photography services and 0 if the business provided cakes or flowers).[10] Column 4 repeats the third analysis in a sample that is limited to businesses in urban areas. Column 5 reports the third analysis in the entire sample, controlling for the rate of voters for Republican candidates in the level of the county. ***p < .01, **p < .05, * p < .01.

[10] No covariate for florists was included because of the small number of florists in the sample (N=82), their concentration in one regime, and an analysis that did not find them to be statistically significantly distinguished from bakers (see Table 8).

Table OA4.2 - The Impact of Masterpiece on Businesses that Previously Provided Service to Same-Sex Couples (Logistic Regressions)

	Agreement to Provide Service (Binary)				
	(1)	(2)	(3)	(4)	(5)
Same-Sex	-0.449***	-0.453***	-0.457***	-0.458***	-0.430***
	(0.131)	(0.132)	(0.132)	(0.132)	(0.143)
AD		-0.389**	-0.483**	-0.525***	-0.971***
		(0.184)	(0.188)	(0.192)	(0.233)
RFRA		-0.247	-0.241	-0.244	0.174
		(0.174)	(0.175)	(0.175)	(0.184)
AD*RFRA		0.831***	0.875***	0.871***	1.349***
		(0.265)	(0.266)	(0.267)	(0.299)
Wave 4			-0.146	-0.146	-0.099
			(0.132)	(0.132)	(0.143)
Photographer			-0.429***	-0.452***	-0.436***
			(0.139)	(0.141)	(0.152)
Republicans				-0.758	
				(0.620)	
Constant	1.127***	1.232***	1.599***	1.999***	1.144***
	(0.097)	(0.141)	(0.186)	(0.379)	(0.205)
Business Fixed Effects	Yes	Yes	Yes	Yes	Yes
Only cities (80k+)	No	No	No	No	Yes
Businesses	576	576	576	576	485
Observations	1,152	1,152	1,152	1,152	932

Notes: This table is identical to the former table, but analyzes the binary response measure in a logistic regression, presenting odds ratios instead. ***p < .01, **p < .05, * p < .01.

Table OA4.3 - The Impact of Masterpiece on Businesses that Previously Provided Service to Same-Sex Couples (Nuanced Response)

	Agreement to Provide Service (Nuanced)				
	(1)	(2)	(3)	(4)	(5)
AD		-0.076	-0.099*	-0.112**	-0.196***
		(0.054)	(0.054)	(0.055)	(0.068)
RFRA		-0.017	-0.015	-0.016	0.090*
		(0.050)	(0.050)	(0.050)	(0.054)
Same-Sex	-0.102***	-0.102***	-0.101***	-0.101***	-0.091***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.029)
Wave 4			-0.046*	-0.046*	-0.029
			(0.026)	(0.026)	(0.029)
Photographer			-0.108***	-0.115***	-0.120***
			(0.039)	(0.039)	(0.042)
Republicans				-0.237	
				(0.175)	
AD*RFRA		0.150**	0.159**	0.157**	0.250***

		(0.076)	(0.075)	(0.075)	(0.086)
Constant	0.706***	0.712***	0.805***	0.929***	0.694***
	(0.023)	(0.037)	(0.046)	(0.103)	(0.053)
Business Fixed Effects	Yes	Yes	Yes	Yes	Yes
Only cities (80k+)	No	No	No	No	Yes
Businesses	576	576	576	576	485
Observations	1,152	1,152	1,152	1,152	932

Notes: This table presents the same models as the previous tables, but the dependent variable is the nuanced response measure (from -1, an explicit negative response, to +1, an explicit positive response). ***p < .01, **p < .05, * p < .01.

Tables OA4.1-3 report the regression results of the main analysis of the experiment results, treating the main dependent variable of agreement to serve the couple as binary (3.1, 3.2) or nuance (4.3), subjecting it to a linear (4.1, 4.3) and a logistic (4.2) regression analysis. As the tables show, the results are consistent across these modeling approaches and specifically the negative effect of *Masterpiece* on previously gay-friendly businesses is highly significant in all models and approaches.

Column 1 in all tables estimates the impact of sexual orientation as the sole factor influencing the agreement to serve the couple. Column 2 adds the coefficients for the legal regime in which businesses are located (these results are discussed in Section S4.5 below).

Columns 3-5 are robustness checks and follow up studies. Specifically, in Column 3 I control for the additional experimental variables – the wave of inquiry and type of business. The results are robust to both.[11] Then, Columns 4 and 5 examine whether the *Masterpiece* effect is more or less pronounced in regimes that vary in their conservativeness. I examine this question from two angles.

First, I limit the analysis to cities which population is larger than 80,000 people. This check evaluates the potential concern that the results are driven by rural and less populated areas, where conservative attitudes towards same-sex marriage are presumably more prevalent. If this was the case also at the time of the experiment, these areas could have tilted the results towards discrimination of same-sex couples. Another reason to examine urban areas in particular is the common argument that sexual orientation discrimination is less of a problem in larger cities. Accordingly, Column 4 analyzes only businesses located in larger cities. The *Masterpiece* effect is robust to this analysis. The negative effect of *Masterpiece* is not less pronounced in urban areas and does not appear to be driven by rural areas (otherwise, their exclusion would have eliminated the effect). The same results emerge from the analyses of the entire sample of businesses, the control group, and the particularly keen

[11] The tables show that photographers were less likely to agree to provide service than bakers and florists, across couple types (see also Table OA4.6 comparing the experiment and control groups). Notably, this result was not causally linked to *Masterpiece* as photographers were less likely to provide service both before and after *Masterpiece*. Before *Masterpiece*, photographers provided -7.6% positive responses (p = .002), +5.4% non-response (p = .019), and +1.6% negative responses (p = .18) than other vendors. After *Masterpiece*, photographers provided -7.6% positive responses (p = .003), +4.3% non-response (p = .066), and +2.6% negative responses (p = .06) than other vendors. These findings are consistent with the hypothesis articulated in Section 3.1 that photographers might be pickier in general about their customers as they are more intimately involved in the wedding than bakers and florists.

businesses (Tables OA4.2, 4.3, and 4.5 below). In all these analyses, the *Masterpiece* effect remains robust to the focus on urban areas.

A different and perhaps more straightforward proxy of conservativeness is the percent of the population who voted for the Republican Presidential candidate. Table 6, column 5, includes a covariate for the Republican vote rate (average of the last three elections, 2008-2016) in the county from which the business operates.[12] The results of the regression results do not lend support to the hypothesis that the *Masterpiece* effect is more pronounced in more conservative areas, as the coefficient of the Republican vote rate is not statistically significant. The same results emerge from the analyses of the entire sample of businesses, the control group, and the particularly keen businesses (Tables OA4.2, 4.3, and 4.5 below).

Overall, the results from both the big cities analysis and the Republican vote analysis suggest that the *Masterpiece* effect is not explained by the conservativeness of the environment in which businesses operate. Note that this null result is not very surprising given that the sample was constructed to minimize political and attitudinal differences to facilitate the legal regime comparison. I deliberately chose jurisdictions that are similar politically and demographically (but differ in their legal regimes), as shown in Table 1. This methodological design limited the span of the conservativeness of the environments in the study, what could have attenuated the role of this factor in the results.

[12] Data from *U.S. General Election Presidential Results by County From 2008 to 2016*, GITHUB, https://github.com/tonmcg/US_County_Level_Election_Results_08-16 (last modified Sep. 7, 2018).

2. The impact of *Masterpiece* on the entire experiment group

This analysis includes the entire sample of businesses in the experiment group (N=904 businesses * 4 observations per business, resulting in 3616 observations). While it provides a complete picture of the results, the analysis is less indicative of the *Masterpiece* effect because of the significant drop in responsiveness (attrition) that occurred between waves 1 and 2, reducing the overall rate of responses to opposite-sex couples. Still, Table OA4.4 indicates a drop of 14.4 pp in positive responses to same-sex couples after *Masterpiece*, or ~23 percent.

Table OA4.4 - Average Response Rates of Businesses Before and After Masterpiece, by Sexual Orientation of Couples

		Negative Responses		No Response	Positive Responses			Percent Diff. in		
Period	**Couple**	*Neg.*	*Neg. w/ Referral*		*Coop.*	*Pos.*	**Total PR**	**PR OS-SS**	**Total RR**	**N**
Before *Masterpiece*	Opposite-Sex	2.9	2.8	41.3	3.1	50.0	53.1	-10.49	58.7	906
	Same-Sex	4.0	3.3	29.1	3.9	59.7	63.6	(0.0013)	70.9	906
After *Masterpiece*	Opposite-Sex	4.8	4.0	33.7	1.6	56.1	57.6	8.39	66.3	906
	Same-Sex	6.3	3.4	41.1	1.4	47.8	49.2	(0.0009)	58.9	906

Table OA4.4 also indicates a statistically significant increase in negative responses for same-sex couples after the decision (p = .001), from 10.28% negative responses before *Masterpiece* (66 out of 642 responses) to 16.5% negative responses after *Masterpiece* (88 out of 534 responses; a 6.2 pp difference). While the trend is in the same direction for opposite-sex couples, the parallel increase in negative responses for opposite-sex couples was smaller and not statistically significant at $p < 0.05$ (from 9.8% to 13.3%; a 3.5 pp difference; p = .064). With the caution that this analysis is influenced from the fact that most vendors did not bother to provide an explicitly negative response, the increase in negative responses for same-sex couples after *Masterpiece* is 177% the increase of such responses for opposite-sex couples (p = .03).

Table OA4.5 reports the analysis of the entire sample, which yielded a highly significant and negative coefficient on the interaction between the court's decision (Post Court=0 for measurements prior to the decision and 1 for measurements after the decision) and sexual orientation (Same Sex=0 for a heterosexual couple inquiry and 1 for a same-sex couple inquiry). Namely, businesses were less likely to agree to serve same-sex couples after *Masterpiece*. This is despite the fact that businesses were, on average, more likely to respond positively to couples after *Masterpiece* and that the coefficient of Same Sex was positive (these are both artifacts of week 2 attrition problem[13]).

[13] The sharp attrition in week 2 both reduced the average rate of response before *Masterpiece* as compared with after *Masterpiece*, and simultaneously reduced the overall rate of response to heterosexual couples as compared with same-sex couples, because all emails in week 2 came from heterosexual couples. As a result, both the Post Court and Same Sex coefficients were significant and positive.

Table OA4.5 - The Impact of *Masterpiece* on Agreement to Provide Service to Same-Sex and Opposite-Sex Couples (All businesses)

	Agreement to Provide Service			
	(1)	(2)	(3)	(4)
AD		-0.145***	-0.162***	-0.096
		(0.036)	(0.036)	(0.062)
RFRA		-0.129***	-0.122***	-0.147***
		(0.035)	(0.035)	(0.042)
Post Court	0.045***	0.045***	0.045***	0.046**
	(0.017)	(0.017)	(0.017)	(0.020)
Same Sex	0.105***	0.105***	0.105***	0.114***
	(0.017)	(0.017)	(0.017)	(0.020)
Photographer			-0.080***	-0.105***
			(0.027)	(0.032)
AD*RFRA		0.237***	0.242***	0.172**
		(0.051)	(0.051)	(0.071)
Post Court*Same Sex	-0.189***	-0.189***	-0.189***	-0.190***
	(0.024)	(0.024)	(0.024)	(0.028)
Constant	0.531***	0.608***	0.660***	0.695***
	(0.016)	(0.027)	(0.032)	(0.042)
Business Fixed Effects	Yes	Yes	Yes	Yes
Only cities (80k+)	No	No	No	Yes
Businesses	904	904	904	632
Observations	3,616	3,616	3,616	2,528

Notes: The table reports the results from a series of linear regression analyses predicting the agreement of all businesses in the experiment to serve couples post-*Masterpiece*. All analyses include fixed effects at the level of the business. The dependent variable is binary response: 1 for positive response, 0 for negative or no response. Column 1 reports a simple regression that includes only the coefficient of sexual orientation (Same-Sex = 1 for same-sex couples and 0 otherwise) and Post Court (1 = After Masterpiece, 0 = Before Masterpiece), and the interaction term (1 = Same Sex Couple After Masterpiece, 0 otherwise). Column 2 adds the coefficients of legal regime (AD = 1 if an AD law exists in the jurisdiction and 0 otherwise; RFRA = 1 if a RFRA exists in the jurisdiction and 0 otherwise; AD*RFRA = 1 if the two laws coexist in the jurisdiction and 0 otherwise). Column 3 adds the coefficients of the type of business (Photographer = 1 is the business provided photography services and 0 if the business provided cakes or flowers). Column 4 repeats the third analysis in a sample that is limited to businesses in urban areas. ***p < .01, **p < .05, * p < .01.

More descriptively, the results indicate a sexual orientation gap in the positive responses to couples after *Masterpiece* which ranges from 7 to 10 percentage points. Specifically, in the first week after *Masterpiece*, 60% of the vendors who randomly received an inquiry from a heterosexual couple agreed to provide service to that couple as compared with 50% of those who randomly received an inquiry from a same-sex couple (10 percentage points gap). On the second week after *Masterpiece,* the randomization flipped such that each vendor received an email from the counter-orientation couple. Of the businesses now contacted by heterosexual couples, 55 percent responded favorably, as compared with 48 percent of those contacted by same-sex couples (7 percentage points gap). Note that this pattern indicates both between-subject differences (in each week, between the random groups) and within-subject differences (across weeks, within each group). Note that this pattern indicates both between-subject differences (in each week, between the random groups) and within-subject differences (across weeks, within each group). Weekly attrition cannot explain the within-subject pattern, as the rate of response went *up* in in the group that received the first message from a same-sex couple and the second message from a heterosexual couple. Weekly attrition cannot explain the within-subject pattern, as the rate of response went *up* in in the group that received the first message from a same-sex couple and the second message from a heterosexual couple. Controlling for all other factors—legal regime, business type, county conservativeness, and urban environment – showed that the effect is robust.

3. Comparing the experiment and the control groups post-*Masterpiece*

One may be concerned that the detected effect arises from the repeated measurement of businesses rather than from the *Masterpiece* decision itself. To evaluate this concern, in this analysis I compare the post-*Masterpiece* results in the experiment group to the results in the control group (N=251 businesses), which was contacted for the first time after *Masterpiece*. This analysis also helps evaluating the effect of the attrition that occurred in the experiment group on the overall results (see below).

Notably, the makeup of the control group is not identical to that of the experiment group, yet businesses in this group were sampled and measured following exactly the same procedure applied to the experiment group post *Masterpiece*. While the control group is not powered to detect differences between legal regimes, it is large enough to detect the two effects of interest in this analysis: First, the effect of the repeated measurement on the experiment group, i.e. whether business behavior change as a result of being contacted repeatedly in the experiment. A comparison with the control group, which is freshly contacted after Masterpiece, can answer this question. Second, and crucially, whether the repeated measurement effect influenced the *Masterpiece* effect. To put in other words, did the experiment *itself* cause the pattern of discrimination which is evident post-*Masterpiece*? This might happen if businesses become fatigued or suspicious in non-random fashion that disproportionately influences same-sex couples and not opposite-sex couples. The interaction term of two variables: Control (0 if Experiment group and 1 if Control group) and Same Sex (0 is opposite-sex and 1 if same-sex) can indicate whether same-sex discrimination post *Masterpiece* is unique to the experiment group or extends to the control group.

Table OA4.6, column 1, answers the first question—is there an effect for the repeated measurement of businesses? I find that the repeated measurement influenced the results, such that businesses in the control group were significantly more likely to respond favorably to couples of all identities as compared with businesses in the experiment group. However, this result is not robust, as indicated from the comparison of the effect in row 2 across the different models. This comparison indicates that the difference between the Control and the Experiment groups disappear in models 4 (controlling for legal regime), 5 (only cities) and 6 (controlling for county conservativeness, as proxied by the percent of Republican voters).

Row 3 in Table OA4.6 answers the second question—did the experiment itself produce the pattern of discrimination evident post-*Masterpiece*? As the table shows, the answer is negative. Being in the control or in the experiment group did not interact with the effect of sexual orientation: although the baseline rate of positive responses in the two groups somewhat differed, businesses in the control group were just as likely to discriminate against same-sex couples post-*Masterpiece* as businesses in the experiment group (Experiment averages: 57 percent provided positive response to opposite-sex couples v. 49 percent who did the same for same-sex couples; Control averages: 66.5 percent versus 57 percent, respectively).

Table OA4.6. Impact of *Masterpiece* on Agreement to Provide Service in the Experiment and Control Groups

	Agreement to Provide Service					
	(1)	(2)	(3)	(4)	(5)	(6)
Same Sex	-0.084***	-0.084***	-0.084***	-0.084***	-0.076***	-0.084***
	(0.017)	(0.017)	(0.016)	(0.016)	(0.020)	(0.016)
Control	0.089**	0.062*	0.083**	0.052	0.040	0.049
	(0.035)	(0.036)	(0.035)	(0.036)	(0.039)	(0.037)
SameSex*Control	-0.012	-0.012	-0.012	-0.012	-0.018	-0.012
	(0.035)	(0.035)	(0.035)	(0.035)	(0.038)	(0.035)
Week4			-0.025*	-0.025*	-0.015	-0.025*
			(0.015)	(0.015)	(0.017)	(0.015)
AD		-0.142***		-0.152***	-0.106	-0.156***
		(0.039)		(0.039)	(0.066)	(0.039)
RFRA		-0.136***		-0.132***	-0.142***	-0.132***
		(0.034)		(0.034)	(0.040)	(0.034)
AD*RFRA		0.257***		0.265***	0.217***	0.262***
		(0.052)		(0.052)	(0.075)	(0.052)
Photographer			-0.048*	-0.055**	-0.071**	-0.057**
			(0.026)	(0.026)	(0.030)	(0.026)
Republican Vote Rate						-0.074
						(0.113)
Constant	0.576***	0.651***	0.618***	0.697***	0.712***	0.736***
	(0.016)	(0.027)	(0.024)	(0.032)	(0.040)	(0.068)
Business Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Only cities (80k+)	No	No	No	No	Yes	No
Businesses	1155	1155	1155	1155	866	1155
Observations	2,310	2,310	2,310	2,310	1,732	2,310

Notes: The table reports the results from a series of linear regression analyses predicting the agreement of businesses in the experiment and control groups to serve couples post-*Masterpiece*. All analyses include fixed effects at the level of the business. The dependent variable is binary response: 1 for positive response, 0 for negative or no response. Column 1 reports a simple regression that includes only the coefficient of sexual orientation (Same-Sex = 1 for same-sex couples and 0 otherwise) and Control (1 = Control group, 0 = Experiment group), and the interaction term (1 = Same Sex Couple + Control group, 0 otherwise). Column 2 adds the coefficients of legal regime (AD = 1 if an AD law exists in the jurisdiction and 0 otherwise; RFRA = 1 if a RFRA exists in the jurisdiction and 0 otherwise; AD*RFRA = 1 if the two laws coexist in the jurisdiction and 0 otherwise). Column 3 adds the coefficients of the experimental wave (wave 4 = 1 if the inquiry was sent in the second wave after the decision and the last wave in total, and 0 otherwise) and the type of business (Photographer = 1 is the business provided photography services and 0 if the business provided cakes or flowers; the control group included only photographers and florists). Column 4 repeats the third analysis in a sample that is limited to businesses in urban areas. Column 5 reports the third analysis in the entire sample, controlling for the rate of voters for Republican candidates in the level of the county. ***p < .01, **p < .05, * p < .01.

4. The Impact of *Masterpiece* on businesses that were generally keen to provide service prior to the decision

As a robustness check, I re-run the main analysis on the group of businesses that agreed to provide service to *both* same-sex and opposite-sex couples before *Masterpiece* (N=422 businesses * 2 post *Masterpiece* observations per business, resulting in 844 observations). As in the main analysis, the examination focuses on how these businesses behave after the *Masterpiece* decision. There are several reasons why I consider this analysis as subsidiary to the main analysis. First, this cohort treated both same-sex and heterosexual couples favorably before *Masterpiece*. Hence, on the one hand, it presents an opportunity to examine whether *Masterpiece* had a negative effect on businesses that before the decision appeared to be equal treatment businesses. On the other hand, this cohort does not appear to exhaust the actual group of equal treatment businesses in the general sample. Businesses self-select into this group in part based on their responses to the second wave of emails, because this is the wave of inquiries from opposite-sex couples; as I explained in section XX in the article, this wave suffered from significant reduction in responsiveness.[14] In these conditions, businesses that responded positively to both couple types before *Masterpiece* appear to be characterized by particular responsiveness and general eagerness to provide service, in addition to being egalitarian. This characterization is confirmed by the findings of the random phone survey, described in Section OA3, that indicate that businesses that did not respond to the second wave of emails were generally less responsive—also over the phone—than other businesses. Put in other words, the current analysis asks what effect did *Masterpiece* have on businesses that prior to the decision were highly keen to do business in general.

To answer this question, I created a dataset of all equal treatment businesses (N=422) and then examined their responses to same-sex and heterosexual couples after *Masterpiece*. The analysis has only two observations per business as behavior prior to *Masterpiece* is given.

Table OA4.7 plots the results, showing that the coefficient for sexual orientation (Same Sex) is significant and negative in all models. These results are particularly striking given that this group of businesses provided the same favorable treatment to same-sex and heterosexual couples before *Masterpiece* and appeared particularly responsive and keen to do business with everyone. Indeed, as anticipated, the overall rates of positive response of the keen businesses were higher than the general sample, such that on the first week after Masterpiece, 77% of the businesses contacted by same-sex couples responded favorably and in the second week, 74% responded the same. However, these response rates were considerably lower than the 86% who responded favorably to heterosexual couples on the first week (9 percentage points gap) and the 79% who responded the same on the second week (5 percentage points gap). The effect of sexual orientation on the keen (and previously egalitarian) businesses was independent from the effect of between-week attrition (Week4 coefficient).

[14] Because of wave 2 attrition this group is smaller than the group of businesses that provided service only to same-sex couples. As the event of reverse discrimination against heterosexual couples pre-*Mastepiece* seems unlikely, the group of seemingly equal treatment businesses potentially excludes businesses who are equal treatment businesses but were excluded due to wave 2's responsiveness problem.

Table OA4.7 - The Impact of *Masterpiece* on pre-*Masterpiece* Generally Keen Businesses

	Agreement to Provide Service				
	(1)	(2)	(3)	(4)	(5)
Same Sex	-0.069***	-0.069***	-0.069***	-0.066**	-0.069***
	(0.024)	(0.024)	(0.024)	(0.029)	(0.024)
AD		-0.089*	-0.097**	-0.163**	-0.107**
		(0.046)	(0.046)	(0.072)	(0.046)
RFRA		-0.059	-0.059	-0.074	-0.059
		(0.042)	(0.042)	(0.047)	(0.042)
Wave 4			-0.050**	-0.026	-0.050**
			(0.024)	(0.029)	(0.024)
Republican Vote Rate					-0.199
					(0.149)
Photographer			-0.055*	-0.082**	-0.063*
			(0.032)	(0.037)	(0.032)
AD*RFRA		0.161**	0.163**	0.220***	0.162**
		(0.064)	(0.064)	(0.084)	(0.063)
Constant	0.825***	0.855***	0.914***	0.938***	1.018***
	(0.020)	(0.031)	(0.038)	(0.048)	(0.087)
Business Fixed Effects	Yes	Yes	Yes	Yes	Yes
Only cities (80k+)	No	No	No	Yes	No
Businesses	422	422	422	302	422
Observations	844	844	844	604	844

Notes: The table reports the results from a series of linear regression analyses predicting the agreement of generally keen businesses to serve couples post-*Masterpiece*. All analyses include fixed effects at the level of the business. The dependent variable is binary response: 1 for positive response, 0 for negative or no response. Column 1 reports a simple regression that includes only the coefficient of sexual orientation (Same-Sex = 1 for same-sex couples and 0 otherwise). Column 2 adds the coefficients of legal regime (AD = 1 if an AD law exists in the jurisdiction and 0 otherwise; RFRA = 1 if a RFRA exists in the jurisdiction and 0 otherwise; AD*RFRA = 1 if the two laws coexist in the jurisdiction and 0 otherwise). Column 3 adds the coefficients of the experimental wave (wave 4 = 1 if the inquiry was sent in the second wave after the decision and the last wave in total, and 0 otherwise) and the type of business (Photographer = 1 is the business provided photography services and 0 if the business provided cakes or flowers). Column 4 repeats the third analysis in a sample that is limited to businesses in urban areas. Column 5 reports the third analysis in the entire sample, controlling for the rate of voters for Republican candidates in the level of the county. $^{***}p < .01$, $^{**}p < .05$, $* \ p < .01$

5. The Impact of Masterpiece in Different Legal Regimes – Full Analysis

As elaborated in Part 3 of the paper, businesses were sampled to the experiment from four regimes that are similar in economic, demographic, and attitudinal respects, but differ in how they regulate religious freedom and equality duties (see Table 1). Specifically, North Carolina has no RFRA and no AD law at any level of government. Iowa has no RFRA but has a state AD law. Both Indiana and Texas have state RFRAs and no AD laws, yet some local governments within these states enacted AD laws. One can expect that the effect of *Masterpiece* might differ between these regimes. In particular, businesses subject to AD laws can be expected to adopt their behavior post-*Masterpiece* if they believe that the decision has relaxed their antidiscrimination obligations. In contrast, businesses in regimes that have never enacted AD laws have no legal basis to change their behavior, as they were never obliged to not discriminate on the basis of sexual orientation to begin with.

Returning to the analysis of businesses that provided positive responses to same-sex couples before *Masterpiece* (Section OA4.1), Column 2 in Tables OA4.1-3 show that in addition to the highly significant and reliable effect of sexual orientation on the agreement to provide service, the coefficients for AD and for the AD*RFRA interaction are also statistically significant. (The RFRA coefficient is negative but not statistically significant in the vast majority of the models). These results were generally robust to different modeling approaches and to the inclusion of other variables, as columns 3-5 in all tables show.

To understand the interaction between AD and RFRA, I probe further into the differences between legal regimes in Table OA4.8. The results indicate that *Masterpiece* had a highly statistically significant negative effect on businesses' agreement to provide service to same-sex couples in all regimes, *except* regimes that enacted both an antidiscrimination law and a religious freedom law.

Table OA4.8 – Impact of *Masterpiece* on Businesses that Previously Responded Positively to Same-sex Couples, by Legal Regime

	Agreement to Provide Service (Binary)			
	+RFRA +AD	+RFRA -AD	-RFRA +AD	-RFRA -AD
Same Sex	-0.021	-0.101**	-0.108**	-0.127***
	(0.042)	(0.043)	(0.049)	(0.039)
Week4	-0.006	0.004	-0.126**	-0.014
	(0.042)	(0.043)	(0.049)	(0.039)
Republican Vote Rate	0.188	-0.276	0.059	-0.351
	(0.275)	(0.351)	(0.389)	(0.217)
Photographer	-0.088	-0.190***	-0.121	-0.039
	(0.059)	(0.067)	(0.093)	(0.057)
Florist			-0.154	
			(0.099)	
Constant	0.745***	0.995***	0.840***	1.003***
	(0.137)	(0.194)	(0.196)	(0.125)
Business Fixed Effects	Yes	Yes	Yes	Yes
Businesses	139	148	115	173
% of Regime Businesses	65%	61%	55%	73%
Observations	278	296	230	346

Notes: This table reports the effect of Masterpiece on businesses operating in different legal regimes, that prior to the decision agreed to provide services to same-sex couples. AD+RFRA regimes are counties in IN and TX that are subject to state RFRAs and have enacted local AD laws; -AD-RFRA regimes are counties in IN and TX that are subject to state RFRAs and have not enacted local AD laws; the AD-RFRA regime comprises of all counties in IA, a state that has enacted an AD law and no RFRA; the -AD-RFRA regime comprises of all counties in NC, a state that has not enacted a RFRA nor an AD law, and had no county with such laws at the time of the experiment. Because florists were concentrated in the +AD-RFRA regime this is the only regime with such covariate. $^{***}p < .01$, $^{**}p < .05$, * $p < .01$.

The first notable contrast is between Column 1 (RFRA+AD) and Column 2 (RFRA-AD), each including businesses from Indiana and Texas. Both states enacted RFRAs, yet AD laws were enacted, if at all, only at the municipal level. Consequently, the state of the law varies *within* those states. *Masterpiece* had a negative effect on same-sex couples in jurisdictions that did *not* prohibit sexual orientation discrimination, but not in jurisdictions that enacted AD laws. The negative effect of *Masterpiece* in jurisdictions where businesses had no legal basis to change their behavior is also evident in Column 4 (-RFRA-AD), which includes North Carolina businesses. Although no law prohibited these businesses from refusing to serve same-sex couples before *Masterpiece*, businesses in this regime that previously agreed to serve same-sex couples shift to discrimination after the decision.

The second notable contrast is between column 1 (RFRA+AD), including businesses from Indiana and Texas, and column 3 (-RFRA +AD), including businesses from Iowa. Both regimes prohibit discrimination on the basis of sexual orientation, yet Indiana and Texas also enacted state RFRAs, whereas Iowa did not enact a RFRA or a similar statute at any level of government. As noted in Section 3.1, businesses in both regime types were expected to adopt their behavior post-*Masterpiece*. Yet only businesses in the AD regime (Iowa) adopt their behavior post-*Masterpiece*, whereas businesses in +RFRA+AD regimes (Texas and Indiana)—that were expected to adopt their behavior even more—do not significantly differentiate on the basis of sexual orientation after *Masterpiece*.

6. The Impact of *Masterpiece* as a function of Religious Environment - Additional Analyses

Table OA4.8. The Effect of *Masterpiece* and Religious Density on pre-*Masterpiece* Gay-Friendly Businesses

	Agreement to Provide Service				
	(1)	(2)	(3)	(4)	(5)
Same Sex	-0.092***	-0.092***	0.008	-0.092***	0.019
	(0.021)	(0.021)	(0.049)	(0.021)	(0.051)
AD	-0.100**	-0.127***	-0.127***	-0.105**	-0.105**
	(0.045)	(0.047)	(0.047)	(0.045)	(0.045)
RFRA	-0.049	-0.075*	-0.075*	-0.082*	-0.082*
	(0.041)	(0.044)	(0.044)	(0.046)	(0.046)
Week4	-0.029	-0.029	-0.029	-0.029	-0.029
	(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Photographer	-0.085***	-0.087***	-0.087***	-0.089***	-0.089***
	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Evangelical Congregations Density		-84.005*	-14.25		
		(48.378)	(57.377)		
Religious Congregations (all groups) Density				-52.730*	-6.645
				(31.58)	(36.93)
AD:RFRA	0.176***	0.206***	0.206***	0.187***	0.187***
	(0.062)	(0.064)	(0.064)	(0.062)	(0.062)
Same Sex*Evangelical Density			-139.51**		
			(61.699)		
Same Sex*Religious Density					-92.17**
					(38.28)
Constant	0.846***	0.925***	0.875***	0.928***	0.872***
	(0.038)	(0.059)	(0.063)	(0.062)	(0.066)
Business Fixed Effects	Yes	Yes	Yes	Yes	Yes
Businesses	576	576	576	576	576
Observations	1,152	1,152	1,152	1,152	1,152

Notes: The table reports on the relationship between religious environment and agreement to provide service to couples of different types, focusing on businesses that provided positive responses to same-sex couples before *Masterpiece*. The basic full model that includes all experimental and legal covariates, but no religious covariates, is included for ease of reference in column 1. Column 2 reports accounts for Evangelical density, i.e. the ratio between the number of Evangelical communities in the county where a business is located and the population of the county. Column 3 adds the interaction term between Evangelical density and Same-Sex. Columns 4 and 5 report the same models while accounting for Religious density, i.e. the ratio between the number of congregations of all religious groups and the population of the county. Data on religious and Evangelical density is taken from the U.S. Religion Census: Religious Congregations and Membership Study, 2010, referenced in the main manuscript. Note that differences of scale make the coefficients of religious and Evangelical density hard to interpret.***p < .01, **p < .05, * p < .01.

Section OA5 – The Coding Process

Two RAs coded the entire dataset of emails, closely supervised by the PI. One RA coded the entire photographer's data and the other coded the entire bakeries and florist's data. The research team conducted multiple meetings throughout the coding process to discuss the coding method, resolve open issues, and fine-tune the coding scales.

There are four observations per vendor in the experiment group (two before and two after *Masterpiece*) and two observations per vendor in the control group (after *Masterpiece*). Each observation (a row in the coding sheet) represents an email correspondence between a specific vendor and a specific potential customer. An email correspondence may include anything from no response to several responses. Most of the data for each observation is based on the first response from the vendor ("main email").[15] Subsequent emails in the same correspondence (same wave) were not considered in most coding variables; because the research team replied to each vendor based on the content of their specific main email, subsequent emails were mostly incomparable.

The coded variables:

Nuanced response:

A response scale of 5 options:

1 for an explicit positive response (agrees to provide service),

-1 for an explicit negative response (declines to provide service),

and **0** for no response at all. Nuanced responses received different values;

an implicit positive response received **0.5** (e.g., asking for additional information about the location of the venue; we interpreted this response as a tentative agreement to provide service, which is not dependent on the sexual orientation of the couple).

A response was coded as **-0.5** when the vendor declined to provide the requested service but referred the couple to a colleague, or suggested other products, or alternative dates.[16]

Binary response:

A dichotomization of Nuanced Response: **1** for 1 or 0.5. **0** for 0, -0.5 or -1.

Price Per Hour (PPH) (in USD): <u>photographers</u> price variable.

To the extent that photographers mentioned prices, the prices they offered varied greatly in their form of presentation. Many photographers had some array of "packages" that included a combination of varying quantity of shooting hours and additional services for a fixed price.

[15] The two only exception to this rule is first, when a vendor sent a non-automated acknowledgment that she had received the inquiry and will reply shortly, such email was considered in the Time and Cordiality variables. Second, a special variable counted the number of follow-ups – defined as emails sent after the first email.

[16] We considered the suggestion of an alternative date a negative response because it is common knowledge that a wedding date will not be changed for any single provider, making the suggestion merely a matter of politeness. In waves 1 and 2, where the email noted the month of the wedding and did not note a specific date, we coded any agreement to provide service anytime within this month as 1.

Price per hour of photo shooting was defined as the *price for the cheapest package offered* divided by the *number of shooting hours the package included*. There are 732 such data units out of 1,780 responses from photographers (~41%). Additional 226 data units did not include these variables but included other pricing data and their PPH was extrapolated based on a formula explained below.[i] Because of the small number of data points relative to the sample, this variable ultimately lacked sufficient data to be analyzed.

Price Per Serving (PPS) (in USD): bakers price variable.

Price per serving is the most common pricing method in the wedding cake industry. If a vendor priced the cake without mentioning PPS, we calculated the PPS by dividing said price by the average number of guests that was noted in the inquiry letter. For example, if the inquiry letter mentioned 120-140 guests, and the vendor cited a price of $X for the cake, PPS is 130/X. The data includes 340 observations with PPS out of 799 non-empty (Nuanced Response ≠ 0) bakers' observations (~42%). Other replies from bakers did not mention price. Because of the small number of data points relative to the sample, this variable ultimately lacked sufficient data to be analyzed.

Cordiality:

This measure was coded based on the content and subtext of the correspondence[17] and aimed to capture the level of cordiality, warmth, politeness, and desire to do business with the couples, asreflected in the response, on a 5-unit scale:

Value	1	2	3	4	5
Definition	An indifferent or rude comment	A polite response that is seemingly indifferent as to whether we do business or not	A desire to do business, accompanied with a businesslike attitude	A desire to do business, accompanied with a cordial attitude	A strong desire to do business or a very cordial attitude
Example	"Call the shop" (and nothing else)	"you are welcome to check our website and see if you are interested"	"I would love to work with you and Adam"	"Hey Bob! Congratulations on your upcoming wedding! We would LOVE to work with you and Paul for your special day in February!"	"I don't mind driving to your neck of the woods to meet up if it's easier for your schedule"

The coding process for Cordiality included comparing each vendors' four main emails to understand each vendor's tone and style and capture nuanced differences between correspondences within-vendor. To facilitate the comparison between vendors, the same RA evaluated all vendors from the same industry. One concern regarded the comparison between photographers (coded by one RA) and bakers and florists (coded by another RA). To minimize this concern, the two RA's worked closely together, discussing ambiguities and refining the

[17] Considered in this variable is both the main email and the acknowledgment email, if existed.

coding on a day to day basis until the completion of the coding. They also went over and discussed cross-examples from each other's industries, together with and supervised by the PI. The coding process yielded the impression that photographers are generally more cordial than bakers and florists. It is therefore possible that some responses could have received a higher grade, coming from a baker/florist, than from a photographer, simply due to the contrast effect (against the backdrop of the industry). Ultimately, despite the significant amount of efforts invested in the coding of cordiality, the concerns about comparability and the potential subjectivity of the assessment process resulted in this variable not being analyzed.

Response Time (in minutes):

This variable capture the elapsed time between when the inquiry letter was sent and the receipt of the vendor's response.[18] It was computed only for vendors who replied to the inquiry letter (Nuanced Response ≠ 0). Times larger than 10k minutes (roughly a week) were excluded to prevent outliers (110 out of 2703 responses – less than 5%). I did not detect a significant difference in response times in the main analyses of the study and this variable was not analyzed further.

Additional variables that were created in the coding process but were not analyzed in the present project:

Length	Number of words in email.
Meeting	Did the vendor suggest a meeting in person? (binary)
Calling	Did the vendor suggest a phone call/skype call/face time? (binary)
Standard Pricing	Was the pricing, if included, standard (e.g., an attached pdf)? (binary)
Custom	Did the vendor suggest a custom package? (binary)
Acknowledgment	Did the vendor send a preliminary non-automated email (before the main email) to acknowledge receiving the inquiry? (binary)
Follow Up	How many emails did the vendor send after the main email?
Nuanced Discrimination	By-variable comparing waves 1 v. 2 and 3 v. 4, to capture subtle discrimination within subject, which was not captured in Cordiality; **1** for discrimination against same-sex couples, **-1** for discrimination against opposite-sex couples; missing in all cases captured in Cordiality.
Spouse Name	Did vendor mention the spouses' name? (binary)
Congratulating	Did vendor congratulate the couple? (binary)

[i] PPH extrapolation method:

[18] Response for this variable is defined as the main email unless an acknowledgment was sent (and then it's defined as the acknowledgment).

This method was used when the one or both of the two main pricing variables were unavailable, but some other pricing information was available. The original variations of price information we observed were the following:

1) Price for Cheapest Package (951 results)
2) Hours for Cheapest Package (803 results)
3) Price for most expensive package (800 results)
4) Price per Additional Hour (402 results)

<u>Option A</u>: Price for cheapest package (1) is available and Hours for Cheapest Package (2) missing (152 observations):

1) If the variable appeared in the paired week (1-2, 3-4), the missing value was substituted for the matching week value (e.g. if for some vendor the Hours for Cheapest Package were 6 in week #1 and week #2 was missing, then PPH for week #2 was calculated based on 6 hours, regardless of different values that may have been provided in weeks #3 and #4.
2) Alternatively, if the variable appeared in only one of the four weeks, the missing values in the other weeks were substituted for that value. (e.g., if Hours for Cheapest Package were 7 in week #1 and week #4 was missing, and there was no data on week #3, then PPH in week #4 was calculated based on 7 hours.
   Both options 1 and 2 were marked in **BLUE** in the data.
   <u>NOTE: both above options assume discrimination in number of hours is unlikely.</u>
3) If vendors described their package as "full," without specifying the exact number of hours, PPH was calculated based on **8** hours. If vendors described their package as "half," PPH was calculated based on 4 hours. This quantification is based on a few cases where the vendor gave an exact number of hours and referred to this number as "full". "Full" numbers varied between 6-10 hours, with 8 being the frequent answer.
4) If neither of the options above appeared in the data, PPH was calculated based on the average Hours for Cheapest Package in the sample (**6.37** hours).
   Both options 3 and 4 were marked in **GREEN** in the data.

<u>Option B</u>: Price for cheapest package (1) is missing and Price for Additional Hour (4) is available (27 results):

Phase 1 – calculating the average difference between PPH and Price for Additional Hour for all vendors that have all three variables 1,2,4. The average difference is **106.84 $**. (PPH is more expensive than price for additional hour – the reason for this is that PPH represents the price of a work hour plus a portion of the fixed costs – creating the album, meetings etc.)

Phase 2 – PPH is defined as:

$$PPH = Price\ for\ Additional\ Hour + \ 106.84\ \left[\frac{\$}{hour}\right]$$